

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for managing a defective data block of a recording medium, the method comprising:

receiving a write command for data recording, the write command comprising a logical block address to designate a recording position, a transfer length information to identify an amount of data to be recorded and write type information for indicating whether or not the real time recording is required, wherein the write command comprises 12 bytes of information including the logical block address of 4 bytes, the transfer length information of 4 bytes and the write type information of 1 bit among 1 byte;

determining whether to replace a defective data ~~block to~~ block with a spare area of the recording medium based on the write type information; ~~and~~

replacing the defective data ~~block to~~ block with the spare area of the recording ~~medium if~~ medium when the write type information indicates that the real time recording is not required, while not replacing the defective data ~~block to~~ block with the spare area of the recording medium ~~if when~~ the write type information indicates that the real time recording is required, as a result of the determination; and

generating a defect list including indication information, the indication information being dependent on the write type information,

wherein the indication information indicates that the defective data block is not replaced with the spare area when the write type information indicates that the real time recording is required, and alternatively, indicates that the defective data block is replaced with the spare area

when the write type information indicates that the real time recording is not required.

2. (Cancelled)

3. (Previously Presented) The method of claim 1, further comprising:

identifying a number of defective data blocks found during the real time recording, in order for use in at least a next recording operation; and

updating a remaining recording capacity of the recording medium based on the number of defective data blocks, after recording the data.

4. (Currently Amended) The method of claim 1, further comprising:

~~recording a recording the~~ defect list on the recording medium, ~~the defect list including an indication information to indicate that the defective data block is not replaced.~~

5-6. (Cancelled)

7. (Previously Presented) The method of claim 4, wherein the recording step records the defect list in a defect management area specified in the recording medium.

8. (Currently Amended) A method for managing a defective data block of a recording medium, the method comprising:

receiving a write command for data recording, the write command comprising a logical

block address to designate a recording position, a transfer length information to identify an amount of data to be recorded and a write type information to indicate that real time data recording is required, wherein the write command comprises twelve bytes of information including the write type information of 1 bit among 1 byte;

determining the recording position in the recording medium, the amount of data and the real time recording respectively based on the write command;

controlling the recording of the data such that an optical pickup does not jump to a spare area of the recording ~~medium~~ medium to replace a defective data block ; and

recording a defect list on the recording medium, the defect list including an indication information to indicate that the defective data block is not ~~replaced to~~ replaced with the spare area when the write type information indicates that the real time data recording is required, the indication information being different from the write type information and type of the recoded data but dependent on the write type information.

9. (Previously Presented) The method of claim 8, wherein the recording the defect list records the defect list in a defect management area specified in the recording medium.

10. (Currently Amended) A system for managing a defective data block of a recording medium, the system comprising:

a recording/reproducing device ~~adapted~~ configured

to receive a write command for real time recording and record data on the recording medium, the write command comprising a logical block address information to

designate a recording position, a transfer length information to identify an amount of data to be recorded and write type information to indicate that real time data recording is required, the write command comprising twelve bytes of information that includes the write type information of 1 bit among 1 byte, and wherein the recording/reproducing device is adapted

to perform the recording operation to not replace the defective data block ~~to~~ with a spare area of the recording medium during the real time recording, and record a defect list on the recording medium, the defect list including an indication information to indicate that the defective data block is not replaced when the write type information indicates that the real time data recording is required, the indication information being different from the write type information and type of the recoded data but dependent on the write type information; and

a host device, operatively coupled to the recording/reproducing device through interface, for transmitting configured to transmit the write command to the recording/reproducing device, and controlling to control the recording/reproducing device to record the data according to the write command,

wherein the recording/reproducing device ~~is adapted~~ configured to recognize the write command received from the host device to perform the recording operation in response to the write command and determine the recording position in the recording medium, the amount of data and the real time recording respectively based on the write command.

11. (Currently Amended) The system of claim 10, wherein

the recording/reproducing device is ~~adapted~~ configured to send a report including information to specify a number of defective data blocks found during the real time recording to the host device, and

the host device is ~~adapted~~ configured to recognize an amount of the recorded data based on the information and update the remaining capacity of the recording medium.

12. (Currently Amended) The system of claim 10, wherein

the write command comprises 12 bytes of information including the logical block address of 4 bytes, the transfer length information of 4 bytes and the write type information of 1 bit among 1 byte, and ~~wherein~~

the recording/reproducing device is ~~adapted~~ configured to recognize the specified write command to perform the recording operation.

13. (Currently Amended) The system of claim 10, wherein

the write command comprises 12 bytes of information, the write type information being present on 10th byte number, starting from byte 0 in the byte number, and the type information comprising 1 bit in the 10th byte number, and

~~wherein~~ the recording/reproducing device is ~~adapted~~ configured to recognize the specified write command to perform the recording operation.

14. (Previously Presented) The method of claim 1, further comprising:

determining the recording position in the recording medium, the amount of data and the

real time recording respectively based on the write command.

15. (Previously Presented) The method of claim 1, further comprising:
recognizing the specified write command to perform the recording of data.

16. (Previously Presented) The method of claim 8, wherein the write command comprises 12 bytes of information including the logical block address of 4 bytes, the transfer length information of 4 bytes and the write type information of 1 bit among 1 byte, further comprising:
recognizing the specified write command to control the recording of the data.

17. (Previously Presented) The method of claim 16, wherein the write command further includes a write speed information to specify the recording speed of data to be recoded, further comprising:

performing a linear replacement to the defective data block when data transfer speed is lower than the recording speed and real time processing is not required.

18. (Currently Amended) The system of claim 10, wherein
the host device is ~~adapted~~ configured to transmit the write command including write type information to indicate that the real time recording is not required, alternatively, and
the recording/reproducing is ~~adapted~~ configured
to perform the recording operation to replace the defective data ~~block to block~~
with the spare area of the recording medium during the non real time recording, and

~~records~~

to record a defect list on the recording medium, the defect list including an indication information to indicate that the defective data block is replaced.

19. (Currently Amended) The system of claim 10, wherein

the write command further includes a write speed information to specify the recording speed of data to be recorded, and ~~wherein~~

the recoding/reproducing device is ~~adapted~~ configured to perform a linear replacement when data transfer speed is lower than the write speed and real time processing is not required.

20. (Currently Amended) A method for managing a defective data block of a recording medium, the method comprising:

receiving a write command for real time recording, the write command comprising a logical block address to designate a recording position, a transfer length information to identify an amount of data to be recorded and write type information to indicate that real time data recording is required, wherein the write command comprising 12 bytes of information including the write type information of 1 bit among 1 byte;

performing a recording operation of the data in such a manner that a defective data block is not ~~replaced to~~ replaced with a spare area of the recording medium, during the real time recording; and

storing an identification information to indicate that the defective data block is not replaced with a spare area when the write type information indicates that the real time data

recording is required, the identification information being different from the write type information and type of the recorded data but dependent on the write type information.

21. (Previously Presented) The method of claim 20, wherein the performing step includes a step of skipping a defective data block and recording data in a next available block.

22-23. (Cancelled)

24. (Previously Presented) The method of claim 20, further comprising:
determining the recording position in the recording medium, the amount of data and the real time recording respectively based on the write command, before the recording operation.

25. (Previously Presented) The method of claim 20, further comprising:
identifying a number of defective data blocks found during the real time recording, in order for use in a next recording.

26. (Previously Presented) The method of claim 20, wherein the write command comprises the logical block address of 4 bytes, the transfer length information of 4 bytes and the type information of 1 bit among 1 byte, among the 12 bytes, further comprising:
recognizing the specified write command to perform the recording operation.

27. (Previously Presented) The method of claim 20, wherein the write command comprises the write type information being present on 10th byte number, further comprising:
recognizing the specified write command to perform the recording operation.

28. (Cancelled)

29. (Currently Amended) An apparatus for managing a defective data block, comprising:
an optical pickup ~~adapted~~ configured to record data on the recording medium; and
a controller ~~adapted~~ configured

to receive a write command for recording data, the write command comprising a logical block address to designate a recording position, a transfer length information to identify an amount of data to be recorded and a write type information to indicate that real time data recording is required, the write command comprising 12 bytes of information that includes the write type information of 1 bit among 1 byte,

to determine the recording position in the recording medium, the amount of data and the real time recording respectively based on the write command,

to control the optical pickup to record the data such that the optical pickup does not jump to a spare area to replace a defective data block to a spare area of the recording medium, and

to create a defect list on the recording medium, the defect list including an indication information to indicate that the defective data block is not ~~replaced to~~ replaced with the spare area when the write type information indicates that the real time data

recording is required, the indication information being different from the write type information and type of the recoded data but dependent on the write type information.

30. (Currently Amended) The apparatus of claim 29, wherein the controller is ~~adapted~~ configured to control the optical pickup to record the defect list in a defect management area specified in the recording medium.

31. (Currently Amended) The apparatus of claim 29, wherein
the write command comprises the logical block address of 4 bytes, the transfer length information of 4 bytes and the write type information of 1 bit among 1 byte, and
~~wherein the controller is adapted~~ configured to recognize the specified write command to control the optical pickup.

32. (Currently Amended) The apparatus of claim 31, wherein
the write command further includes a write speed information to specify the recording speed of data to be recorded, and
~~wherein the controller is adapted~~ configured to control the optical pickup to perform a linear replacement to the defective data block when data transfer speed is lower than the recording speed and real time processing is not required.

33. (Currently Amended) An apparatus for managing a defective data block, comprising:
a recording/reproducing unit ~~adapted~~ configured to record data on the recording medium;

and

a controller ~~adapted~~ configured

to receive a write command to record data, the write command comprising a logical block address to designate a recording position, a transfer length information to identify an amount of data to be recorded and write type information to indicate whether real time data recording is required, the write command comprising 12 bytes of information that includes the write type of information of 1 bit among 1 byte,

to perform a recording operation of the data in such a manner that a defective data block is not ~~replaced to~~ replaced with a spare area of the recording ~~medium if medium~~ when the write type information indicates that the real time recording is required while the defective block is ~~replaced to~~ replaced with the spare area of the recording ~~medium if medium~~ when the write type information indicates that the real time recording is not required, and

to create an indication information to indicate whether or not the defective data block is replaced with a spare area according to a value of the write type information, the indication information being different from the write type information and type of the recorded data but dependent on the write type information.

34. (Currently Amended) The apparatus of claim 33, wherein the controller is ~~adapted~~ configured to control the recording/reproducing unit to skip a defective data block and record data in a next available block.

35. (Currently Amended) The apparatus of claim 33, wherein the controller is ~~adapted~~ configured to determine the recording position in the recording medium, the amount of data and the real time recording respectively based on the write command, before the recording operation, thereby control the recording/reproducing unit.

36. (Currently Amended) The apparatus of claim 33, wherein the controller is ~~adapted~~ configured to identify a number of defective data blocks found during the real time recording, in order for use in a next recording.

37. (Currently Amended) The apparatus of claim 33, wherein
the write command comprises the logical block address of 4 bytes, the transfer length information of 4 bytes and the write type information of 1 bit among 1 byte, and
~~wherein the controller is configured to recognize~~ recognizes the specified write command to perform the recording operation.

38. (Currently Amended) The apparatus of claim 33, wherein
the write command comprises the write type information being present on 10th byte number starting from 0 byte number, and
~~wherein the controller is configured to recognize~~ recognizes the specified write command to perform the recording operation.

39. (Cancelled)

40. (Currently Amended) A system for managing a defective data block, comprising:
a recording/reproducing device configured to record data to a recording medium, the recording/reproducing device being ~~adapted~~ configured

to receive a write command, the write command including a logical block address to designate a recording position in the recording medium, a transfer length information to identify an amount of main data to be recorded and a write type information to identify whether the real time recording is required, ~~and for determining~~

to determine whether to replace a defective data ~~block to~~ block with a spare area of the recording medium based on at least the write type information, and

to record a defect entry including indication information on the recording medium, the indication information indicating whether or not the defective data block is replaced with a spare area according to a value of the write type information; and

a host device, operatively coupled to the recording/reproducing device through an interface, and configured to control the recording of data, the host device being ~~adapted~~ configured to transmit the write command and the data to be written to the recording/reproducing device through the interface,

the write command comprising 12 bytes of information, which includes the logical block address of 4 bytes, the transfer length information of 4 bytes and the write type information of 1 bit among 1 byte, ~~and~~

wherein the recoding/reproducing device is ~~adapted~~ configured

to recognize the specified write command to determine at least the write type, and

~~to perform~~ ~~performs~~ the recording operation such that the defective data block is not replaced with the spare area of the recording ~~medium-if medium when~~ the write command identifies that the real time recording is required, while the defective data block is replaced with the spare area of the recording ~~medium-if medium when~~ the write command identifies that the real time recording is not required.

41. (Currently Amended) The system of claim 40, wherein

the recording/reproducing device is ~~adapted~~ configured to record a defect entry including a location of the defective data block and an indication information for specifying whether the defective data block is replaced with the spare area, in response to the recording operation, the indication information being different from the write type information of the write command and type of the recoded data but dependent on the write type information, and

~~wherein~~ the indication information indicates that the defective data block is not ~~replaced~~ to replaced with the spare area, ~~if the~~ when the recording/reproducing device receives the write command including the write type information to identify that the real time recording is required.

42. (Currently Amended) The system of claim 41, wherein the indication information indicates that the defective data block is ~~replaced to~~ replaced with the spare area, ~~if the~~ when the recording/reproducing device receives the write command including the write type information to identify that the real time recording is not required.

43. (Currently Amended) The system of claim 40, wherein the recording/reproducing device comprises:

an optical pickup unit—~~adapted~~ configured to record the data on the recording medium,

a data processor—~~adapted~~ configured to process the data and—~~transferring~~ transfer the processed data to the optical pickup unit, and

a control unit—~~for controlling~~ configured to control the recording operation of data.

44. (Currently Amended) The system of claim 40, wherein the host device is—~~adapted~~ configured to transmit the write command comprising 12 bytes of information, which includes the type information being present on 10th byte number starting from 0 byte number, and the recoding/reproducing device is—~~adapted~~ configured to recognize the specified write command to perform the recording operation.

45. (Cancelled)

46. (Currently Amended) An apparatus for managing a defective data block, comprising:
a recording/reproducing unit—~~adapted~~ configured to record data to a recording medium;
and

a control unit, operatively coupled to the recording/reproducing unit, configured

to control the recording of data, ~~the control unit being adapted~~

to receive a write command, the write command including a logical block address

to designate a recording position in the recording medium, a transfer length information

to identify an amount of main data to be recorded and a write type information to identify whether the real time recording is required, and ~~for determining~~

to determine whether to replace a defective data ~~block to block~~ with a spare area of the recording medium based on the write command, and ~~for controlling~~

to control the recording/reproducing unit according to the determination, the write command comprising 12 bytes of information, which includes the logical block address of 4 bytes, the transfer length information of 4 bytes and the write type information of 1 bit among 1 byte, and

~~wherein the control unit is adapted~~

to recognize the specified write command to determine at least the write type, and

to control ~~controls~~ the recording/reproducing unit such that the defective data block is not replaced with the spare area of the recording ~~medium if medium~~ when the write command identifies that the real time recording is required, while the defective data block is replaced with the spare area of the recording ~~medium if medium~~ when the write command identifies that the real time recording is not required, and

to generate a defect entry including indication information, the indication information indicating whether or not the defective data block is replaced with the spare area according to a value of the write type information.

47. (Currently Amended) The apparatus of claim 46, wherein

the control unit is ~~adapted~~ configured to control the recording/reproducing unit to record a defect entry including a location of the defective data block and ~~an indication~~ the indication

information for specifying whether the defective data block is replaced with the spare area, in response to the recording operation, the indication information being different from the write type information of the write command and type of the recoded data but dependent on the write type information, and

~~wherein~~ the indication information indicates that the defective data block is not replaced to the spare area, ~~if the~~ when the control unit receives the write command including the write type information to identify that the real time recording is required.

48. (Currently Amended) The apparatus of claim 47, wherein the indication information indicates that the defective data block is replaced to the spare area, ~~if the~~ when the control unit receives the write command including the write type information to identify that the real time recording is not required.

49. (Currently Amended) The apparatus of claim 46, wherein the control unit is ~~adapted~~ configured

to receive the write command comprising 12 bytes of information, which includes the type information being present on 10th byte number starting from 0 byte number, and ~~recognizes~~

to recognize the specified write command to control the recording/reproducing unit according to the write command.

50. (Cancelled)